

Amendments to the Drawings

Please replace the drawing sheets containing Figs. 1, 4 and 5 with the replacement drawing sheets appended to this response.

Remarks

Claims 1-10 currently stand rejected. Claims 11-15 are allowed. Claims 1-15 remain pending in the application. Claims 1, 2, 6, 7, and 11-13 are amended herein. The Assignee respectfully traverses the rejections and requests allowance of claims 1-15.

Specification Amendments

Generally, various paragraphs and a table of the specification have been amended to remove references to customer premises 610 and 620, which do not appear in the drawings. Also, the reference numeral for the market hub/head end of Fig. 1 has been changed from 520 to 501 in order to avoid conflict with the downstream manager 520 of Fig. 5. In addition, references to links 113 and 114 have been replaced with link 116 to correctly correspond with Fig. 1. References to link 124 have been eliminated, as no such link appears in Fig. 1. Also, any references to head end 510 have been removed, as that device does not appear in the drawings. Some language has also been added to the specification to refer to the sectors 161-170, as well as the link 131 coupling the head end 500 with the base antenna 160, as shown in Fig. 1.

Some new paragraphs have been added to the specification to properly refer to various elements of Figs. 3-5 that were previously left unnoted. More specifically, references now appear in the specification to the regional domain name server (DNS) 365 and its associated link 313 of Fig. 3; the market DNS 465, alarm system 470, interface 475, file transfer protocol (FTP) test server 480, and Remote Monitor (RMON) probe 495, along with associated links 413-415, 419 and 421, of Fig. 4; and the DNS 591, alarm system 592, asynchronous ports 593, interface 594 and monitor system 596, in addition to the channel combiner 536 and corresponding link 562, of Fig. 5.

The paragraph beginning at page 13, line 15, is also amended to eliminate a typographical error involving the word "similar."

Finally, the paragraph beginning at page 24, line 30, is amended to eliminate an erroneous reference relating the sector probe 695 with Figs. 8-13.

Claim Amendments

Claim 1 is amended to indicate that "each of the more than one contention channel is

associated with a portion of the plurality of bearer channels.” Further, claim 1 is amended to indicate that “each request is for access to the portion of the plurality of bearer channels associated with the one of the more than one contention channel carrying the request...” Claim 6 is amended in a similar manner. These amendments are supported by subject matter currently provided in claims 2 and 7, as well as page 28, line 27, to page 29, line 25.

Claims 1, 2, 6, 7, and 11-13 are also amended to eliminate various grammatical anomalies by, for example, including the word “wherein,” replacing the word “includes” or “comprised of” with “comprising,” and the like. Based on the grammatical nature of these particular claim amendments, no surrender of scope or subject matter is intended therein.

Drawing Amendments

Fig. 1 is amended to change the reference numeral 520 to 501 to alleviate a conflict with reference numeral 520 in Fig. 5.

Fig. 4 is amended to change the reference numeral associated with the link coupling the interface 475 and the switch 425 from 418 to 415, as reference numeral 418 is employed for the link between the satellite receiver 460 and the contention server 455.

Fig. 5 is amended to change the reference numeral associated with the base antenna from 160 to 540 to properly align with the corresponding language of the specification.

Each of the drawing amendments is reflected in a corresponding replacement drawing sheet attached to this Response.

Claim Rejections Under 35 U.S.C. § 103

Claims 1, 3, 4, 6, 8 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over International Publication No. WO 01/03324 A2 to Herrmann et al. (hereinafter “Herrmann”) in view of U.S. Patent No. 6,842,437 to Heath (hereinafter “Heath”). (Page 2 of the Office action.) Also, claims 2, 5, 7 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Herrmann in view of Heath and U.S. Patent No. 6,275,497 to Varma et al. (hereinafter “Varma”). The Assignee respectfully traverses the rejections in light of the current amendments to claims 1 and 6, and in view of the following discussion.

Currently amended claim 1 is presented in its entirety below as a basis for discussion, with emphasis supplied:

1. A communication system, comprising:

a downstream transmission system configured to transmit downstream wireless communications to a user over a plurality of downstream channels; and

an upstream receiver system configured to receive upstream wireless communications from the user over a plurality of upstream channels, the plurality of upstream channels comprising more than one contention channel and a plurality of bearer channels, *wherein each of the more than one contention channel is associated with a portion of the plurality of bearer channels*, the upstream receiver system further configured to receive requests from the user over the more than one contention channel, *wherein each request is for access to the portion of the plurality of bearer channels associated with the one of the more than one contention channel carrying the request* for the upstream wireless communications.

Amended claim 6 provides similar limitations.

In addressing claims 2 and 7, the Office action indicates that the combination of Herrmann, Heath and Varma may disclose “more than one contention channel and a plurality of bearer channels, wherein each of the more than one contention channel is associated with a portion of the plurality of bearer channels,” and also that each request received by the upstream receiver system “is for access to the portion of the plurality of bearer channels associated with the one of the more than one contention channel carrying the request...,” as provided for in amended claims 1 and 6. (Pages 4 and 5 of the Office action.) The Assignee respectfully disagrees, based on the discussions of Varma, Heath, and Herrmann, provided below.

Varma

Generally, Varma discloses “[a] medium access controller for a multi-user network that assigns or changes the operation protocol of multiple upstream channels according to user loading, user status, and/or type of payload data transfers requested by the user or detected by the controller.” (Abstract.) More specifically, “the available upstream channels are classified into particular protocol groups, e.g., Group A, B or C. Group A channels handle communications utilizing a contention protocol and thus operate as contention mode channels.” (Column 5, lines 25-29.) Group B and C channels operate as polling mode channels for more “bursty” communications. (Column 5, lines 29-35.) Thus, in the embodiments of Varma, only one group or portion of channels is utilized in contention. This point is emphasized in Varma, which indicates that “[g]iven a plurality of available upstream channels, only one upstream channel

type need utilize a contention protocol, whereas the remaining channel types can utilize a polling protocol.” (Column 5, lines 36-39.) Thus, Varma only provides a single group or portion of the channels for contention mode communication, unlike the system of amended claims 1 and 6.

Further, Varma does not specifically discuss contention channels as provided for in claims 1 and 6, but instead provides for contention *mode* channels, which appear to be bearer channels available for upstream data transmissions. In Varma, a controller broadcasts credits to the users, and the users transmit available data packets upstream in response, apparently without the benefit of a contention channel. (Column 7, lines 23-31.) No requests for access are made by the users prior to the credit being transferred. Thus, contention channels, as well as requests for access to bearer channels carried over a contention channel, as set forth in claims 1 and 6, are not addressed in Varma.

Varma therefore does not teach or disclose a contention channel, or more than one contention channel, each of which is associated with a portion of the plurality of bearer channels, as provided for in amended claims 1 and 6.

Heath

Heath generally discusses a satellite communication system having a payload which “operates in conjunction with satellite terminals to dynamically use uplink channels as either contention or data channels. The number of contention channels increases as data channel usage decreases, allowing more data channels during peak demands for uplink bandwidth.” (Column 2, lines 13-21.) However, while “[t]he contention channels allow the satellite terminals to transmit the bandwidth requests” (column 3, lines 3-6), each of the contention channels is not associated with a portion of the data channels. Instead, the data channels are employed as a single group such that any of the data channels may be allocated to a terminal via any of the contention channels, since “[a]ll channels except the configured contention channels are available for BOD [bandwidth-on-demand] allocation.” (Column 10, lines 13-15.) Thus, Varma does not teach or suggest each of the contention channels being associated with a portion of the plurality of bearer channels, as set forth in amended claims 1 and 6.

Herrmann

Generally, Herrmann discloses “a wireless network comprising at least a base station and

a plurality of assigned terminals for exchanging user data and control data.” (Page 1, lines 1 and 2.) While Herrmann discloses the possible use of multiple “contention channels” (page 2, lines 29 and 30), these channels are not contention channels as claimed in claims 1 and 6 of the present application.

For example, the Office action indicates that Herrmann discloses “receiv[ing] requests from the user over the more than one contention channel (page 6 lines 26-page 7 line4).” (Page 2 of the Office action.) The Assignee respectfully disagrees. According to Herrmann, “such a contention channel is requested by a terminal by means of a signaling sequence and *always used only after such a request*. After the signaling sequence has been detected, a base station provides such a contention channel which is not continuously available.” (Page 2, lines 14-17.) Thus, since the contention channel can only be used after a request, the contention channel itself is *not used for carrying the requests*, as provided for in claims 1 and 6. Instead, Herrmann indicates that after the requests are received by the base station, provision messages are transferred from the base station over the contention channel to the terminals allowed to use the contention channel. (Page 2, lines 13 and 14.) Afterward, these terminals may then employ the contention channel for registering with the base station and sending user and control data to the base station. (Page 6, line 32, to page 7, line 4.) Thus, Herrmann does not teach or suggest carrying requests over a contention channel, as provided for in claims 1 and 6.

Also, since Herrmann does not teach or suggest the contention channels of amended claims 1 and 6, Herrmann also makes no mention of each of the more than one contention channel being associated with a portion of a plurality of bearer channels, as provided for in claims 1 and 6.

In light of the foregoing, the Assignee contends that claims 1 and 6 are allowable in view of any combination of Herrmann, Heath and Varma, and such indication is respectfully requested.

Further, claims 2-5 depend from independent claim 1, and claims 7-10 depend from independent claim 6, thus incorporating the provisions of their respective independent claims. Thus, the Assignee asserts that claims 2-5 and 7-10 are allowable for at least the reasons set forth above in support of claims 1 and 6, and such indication is respectfully requested.

Therefore, in light of the above discussion, the Assignee respectfully requests withdrawal

of the 35 U.S.C. § 103 rejections of claims 1-10.

Allowance of Claims 11-15

The Assignee thanks the Examiner of his consideration of claims 11-15. Accordingly, the allowability of these claims is not discussed herein.

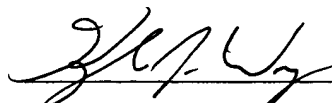
Conclusion

Based on the above remarks, the Assignee submits that claims 1-15 are allowable. Additional reasons in support of patentability exist, but such reasons are omitted in the interests of clarity and brevity. The Assignee thus respectfully requests allowance of claims 1-15.

The Assignee believes no additional fees are due with respect to this filing. However, should the Office determine additional fees are necessary, the Office is hereby authorized to charge Deposit Account No. 21-0765.

Respectfully submitted,

Date: 12/15/05



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